

# Purchase Request Specifications

## Turbo Molecular Pump System (Package)

A Turbo Molecular Pump (TMP) system is required for our research. The system should meet or exceed the following specifications:

1. Should be Turbo Molecular Pump (TMP) with higher than 1000 L/s N<sub>2</sub> pumping speed and wide range evacuation from 1 Torr to 10<sup>-10</sup> Torr.
2. TMP system should include TMP, 5-meter motor interface cable, solid state power supply/controller, cooling and power cord.
3. TMP system should be water cooled version.
4. TMP has to support the vertical ( $\pm 10^\circ$ ) upright installation.
5. TMP should include the protective inlet screen, water cooling unit, standard N<sub>2</sub> purge gas connector at the bearing assembly, and fomblin oil lubricant.
6. The base pressure has to be better than  $1 \times 10^{-8}$  Torr
7. Should be including the operation manual.
8. The bearing system should be oil-lubricated ball bearings.
9. TMP starting and shutdown time should be between 9 to 13 minutes
10. Flanges size should be matched the feed-through of the existing sputtering chamber system and Tri-scroll pump.
11. The inlet flange and the outlet flange should be high vacuum 160CF (Conflat Flange) and 40KF (ISO2861/1 clamped type flange), respectively.
11. The height of the TMP should not be over 20 inch.  
(Please see the picture below)
11. The power line for supply/controller should be single phase, 200/220V, 50/60Hz.
12. Delivery should be within 3 months of contract award of the Purchase Order.

